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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,872	11/29/2001	Luiz B. Da Silva	IL-10888	6745

7590 05/17/2004

Eddie E. Scott
Assistant Laboratory Counsel
Lawrence Livermore National Laboratory
P.O. Box 808, L-703
Livermore, CA 94551

EXAMINER

MANTIS MERCADER, ELENI M

ART UNIT	PAPER NUMBER
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3737

DATE MAILED: 05/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/997,872

Applicant(s)

DA SILVA ET AL.

Examiner

Eleni Mantis Mercader

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 8-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 8-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/26/04 has been entered.

Response to Arguments

2. Applicant's arguments filed on 3/26/04 have been fully considered but they are not persuasive. With respect to the improper combination of the references, the Examiner respectfully disagrees as motivation to combine was provided from the VonBargen'273 reference itself. As to the newly added needle limitation, a new reference is applied to address it.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3 and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boppart et al.'413 in view of VonBargen'273 and Pitris et al.'087.

Boppart et al.'413 teach all the features of the instant invention including a system for characterizing tissue, comprising: a generation system that generates an optical emission signal and an optical reference signal (col. 7, lines 10-16; referring to a system that generates an illumination signal to illuminate the sample and a reference signal directed to a reference mirror;

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also see Figure 2), a probe that directs the optical emission signal to the tissue (see probe unit 22), a transmission system that transmits the emission signal to and from the probe and that transmits said reference signal in a predetermined manner relative to the optical emission signal (col. 7, lines 16-24). The optical signals are transmitted and received through optical fibers (see col. 4, lines 55-58 and see col. 5, lines 14-16).

While Boppart et al.'413 does not explicitly state that a compensation system utilizes the reference signal to correct said emission signal, Figure 2 of Boppart et al.'413 indicates the same connections as Figure 3 of the current invention, and therefore it would have been obvious to one skilled in the art at the time that the invention was made that the reference signal is used to correct the emission and detection signals as that it is well within the knowledge of skilled artisans that reference signals are used to correct emission and/or detection signals.

In Figure 2, element 14 indicates a transmission splitter used in the same manner as in the current invention.

Optical scattering and absorption spectroscopy is performed (col. 5, lines 35-39).

Boppart et al.'413 do not explicitly teach the use of a reference optical fiber for correction of optical emission fluctuations.

In the same field of endeavor of spectrographic determinations, VonBargen'273 teaches the use of a reference fiber to correct for fluctuations of the intensity of the light source (see col. 5, lines 56-67 and col. 6, lines 1-5).

It would have been obvious to one skilled in the art at the time that the invention was made to have modified Boppart et al.'413 and incorporated the teachings of VonBargen'273 in using a reference fiber in order to make accurate spectrographic measurements (see for

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motivation to combine in VonBargen'273, col. 8, lines 24-30, describing compensation of fluctuations and accurate measurements).

While Boppart et al.'413 teach the use of any instrument of choice including a needle (col. 2, lines 28-39), they do not explicitly teach the use a fiber optic needle capable of emission and transmission of the light signal in use with the OCT system to characterize the tissue.

Pitris et al.'087 explicitly teach the use of a fiber optic needle capable of emission and transmission of the light signal in use with the OCT system to characterize the tissue (col. 2, lines 5-40).


It would have been obvious to one skilled in the art at the time that the invention was made to have modified Boppart et al.'413 in view of VonBargen'273 and incorporated the teaching of Pitris et al.'087 in order to use a fiber optic needle as the instrument of choice to characterize tissue in areas which are not accessible through a lumen with instruments such as a catheter or endoscope (see for motivation to combine in Pitris et al.'087, lines 5-17).

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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eleni Mantis Mercader whose telephone number is 703 308-0899. The examiner can normally be reached on Mon. - Fri., 8:00 a.m.-6:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Sykes can be reached on (703) 308-5181. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Eleni Mantis Mercader
Primary Examiner
Art Unit 3737

EMM